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ABSTRACT

An evaluation was done of New York City Public Schools' Project DATA-TECH, which served limited English proficient high school students interested in computer-aided drafting (CAD) and cosmetology programs. The program served 190 students at Sara J. Hale High School in Brooklyn, of whom 89.5 percent were eligible for the Free Lunch Program and most spoke Spanish or Haitian Creole. Participating students majored in either CAD or cosmetology while receiving instruction in English as a Second Language, native language arts, and bilingual content area subjects. The project provided non-instructional services in the areas of guidance, family assistance, extracurricular activities, and job placement. It featured an Executive Internship Program as well as activities for staff development and parental involvement. Evaluation of the program was based on demographic data, citywide student test scores, and interviews with and surveys of the program director. Project DATA-TECH was fully implemented; and it gave students the opportunity to progress academically, develop marketable skills, and achieve optimum proficiency in English and native languages. One appendix summarizes the data collection and analysis procedures. (JB)

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OREA Report

Project DATA-TECH
Grant Number: T003A90193

1990-91

FINAL EVALUATION PROFILE

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Project DATA-TECH
Grant Number: T003A90193

1990-91

FINAL EVALUATION PROFILE

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7/26/91

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This report has been prepared by the Bilingual, Multicultural, and Early Childhood Evaluation Unit of the Office of Research, Evaluation, and Assessment.

Additional copies of this report are available from:

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FOREWORD

The body of this report is preceded by an Extract which presents an overview of salient points of the project: funding cycle; enrollment figures; background of students served; admission criteria; and programming features, strengths, and limitations, including the outcome of all objectives. The extract also presents the conclusions drawn by the Office of Research, Evaluation, and Assessment (OREA) about the program and its recommendations for program improvement.

The extract is followed by the body of the report, titled Program Assessment. This includes such information as staffing, program implementation, and outcome and implementation objectives. Instructional objectives are presented first, followed by noninstructional objectives. The report then addresses those aspects of programming mandated by Title VII regulations that do not have specifically stated objectives. This may be information on attendance and dropout rate, grade retention, mainstreaming, referrals out of the program to meet special needs of the students, and withdrawals. A case history concludes the report.

Data for this profile were collected and analyzed using a variety of procedures, which are described in Appendix A following the text.

Office of Research, Evaluation, and Assessment
New York City Public Schools

E.S.E.A. Title VII Evaluation Profile

Project Data-Tech

1990-91

EXTRACT

PROJECT DIRECTOR: Alba Del Valle

FUNDING CYCLE: Year 2 of 3

SITES

School	Borough	Grade Levels	Enrollment*	
			Fall	Spring
Sara J. Hale High School	Brooklyn	9-12	159	144

*The project enrolled a total of 190 students (13 more than in the previous year).

STUDENT BACKGROUND

Native Language	Number of Students
Haitian Creole/French	117
Spanish	71
Unreported	2

Countries of Origin	Number of Students
Haiti	113
Dominican Republic	39
Puerto Rico	8
Panama	6
Mexico	5
Nicaragua	5
Other countries	14

Mean Years of Education in Native Country: 8.5; in the United States: 1.0

Percentage of Students Eligible for Free Lunch Program: 89.5

ADMISSION CRITERIA

The project admitted students who scored at or below the 40th percentile on the Language Assessment Battery (LAB) and wanted to join the computer-aided drafting (CAD) or cosmetology programs.

PROGRAMMING

Features

Project Data-Tech targeted Spanish- and Haitian Creole-speaking students of limited English proficiency (LEP) at Sarah J. Hale High School in Brooklyn. Participating students majored in either CAD or cosmetology while receiving instruction in English as a Second Language (E.S.L.), Native Language Arts (N.L.A.), and bilingual content area subjects. The project provided noninstructional services in the areas of guidance, family assistance, extracurricular activities, and job placement. It featured an Executive Internship Program. In addition, the project conducted activities for staff development and parental involvement.

Strengths and Limitations

Program strengths included its Executive Internship Program, its ability to train students effectively in the use of computers, and its success in facilitating computer-aided instruction across the curriculum.

Limited CAD materials in students' native languages and theft of computer equipment during the spring semester posed obstacles to program implementation.

CONCLUSIONS AND RECOMMENDATIONS

Project Data-Tech was fully implemented. The project gave Spanish- and Haitian Creole-speaking students the opportunity to progress academically, develop marketable skills, and achieve optimum proficiency in both English and their native language. Project-sponsored support services and extracurricular activities helped ease students' transition to life in the United States and fostered appreciation for each other's cultures. The project met its objectives for N.L.A., content area subjects, attendance, grade retention, staff and curriculum development, and parental involvement. It did not meet its objectives for E.S.L., dropout prevention, and placement in gifted and talented programs. One student was referred to special education; therefore, the project did not meet its objective in this area. OREA could not evaluate the objective for enrollment in post-secondary education institutions because the program did not provide the necessary data.

The conclusions, based on the findings of this evaluation, lead to the following recommendations:

- Identify ways in which to meet the objectives for E.S.L., dropout prevention, and placement in gifted and talented programs.
- Provide data necessary to evaluate all objectives.

PROGRAM ASSESSMENT

STAFFING

Title VII Staff (Total 2)

Title	Degree	Language Competencies
Project Director	M.A., P.D.	Spanish, Haitian Creole/French
Mathematics Teacher	M.S.	French

Other Staff Working with Project Students (Total 20)

Degree		Certification		Language Competencies	
Master's	17	E.S.L.	4	Spanish	9
Ph.D.	1	Bilingual	9	Haitian Creole/French	9
High School+	2				

IMPLEMENTATION AND OUTCOMES

English as a Second Language (E.S.L.)

Level	Periods Weekly
Beginning	10
Intermediate	5
Advanced	5

E.S.L. teachers used a whole-text, holistic teaching methodology, encouraging students to create their own literary works as a response to texts and other instructional materials such as novels, films, and poetry. In addition, the CAD teacher instructed students in how to use a word processing program to check English grammar.

- Eighty-five percent of the target students will demonstrate an appropriate increase in English language proficiency.

Evaluation Instrument: Language Assessment Battery (LAB)*

Pretest: March 1990; Posttest: March 1991.

Number of students for whom pre- and posttest data were reported: 103

Percentage of students showing a gain in N.C.E.s: 59.2

Project did not meet objective.

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*OREA used a gap reduction design to evaluate the effect of supplementary instruction on project students' performance on the LAB. Since all LEP students in New York City are entitled to such instruction, no valid comparison group exists among these students, and OREA used instead the group on which the LAB was normed. Test scores are reported in Normal Curve Equivalents (N.C.E.s), which are normalized standard scores with a mean of 50 and a standard deviation of 21.06. It is assumed that the norm group has a zero gain in N.C.E.s in the absence of supplementary instruction and that participating students' gains are attributable to project services.

Native Language Arts (N.L.A.)--Spanish, French/Haitian Creole

Estimated percentage of students lacking literacy skills in native language: 10

N.L.A. was offered five periods weekly at four levels (beginning, intermediate, advanced, and advanced placement). N.L.A. teachers emphasized a holistic approach to native language competency by focusing on instructional topics and materials based on students' cultural heritage. Students commonly engaged in writing poetry in Spanish, French, and Haitian Creole, and these pieces were often featured in the project students' monthly magazine, "Panorama."

- As a result of participating in the program, 75 percent of the students will demonstrate a significant increase in Haitian Creole language achievement.

In both semesters, 100 percent of the students (51 in the fall and 61 in the spring) passed their Haitian Creole N.L.A. classes. (Increase in achievement is equated with passing the course.)

Project met objective.

- As a result of participating in the program, 75 percent of the students will demonstrate a significant increase in Spanish language achievement.

In both fall and spring semesters, 100 percent of the students (49) passed their Spanish N.L.A. courses.

Project met objective.

Content Area Subjects

Project students took courses in mathematics, science, social studies, and computer-aided drafting or cosmetology. Courses were taught bilingually or with an E.S.L. approach. By insuring that the bilingual curriculum mirrored that of the mainstream, Project Data-Tech staff facilitated students' transition into English-only classes. Many of the project students in upper-level content area classes were able to take mainstream classes with only minimal aid from bilingual paraprofessionals.

Materials used for programming included computers, drafting equipment, textbooks, workbooks, magazines, teacher-made worksheets, transparencies, videotapes, audiocassettes, and magazines. A full-time bilingual computer specialist assisted in providing individualized instruction. Project Data-Tech's computer specialist developed a video-assisted instructional format that enabled students to view computer operations on an overhead projector rather than having to use written material. In addition, lessons were videotaped, enabling students who had missed classes to catch up.

- Eighty-five percent of all targeted students will achieve a passing grade in the subject areas of mathematics, computer aided drafting/design, social studies, and science, as indicated by results on teacher-made tests, using tabulation of passing grades.

Passing Grades in Content Area Courses

	Fall		Spring	
	Enrollment	Percent Passing	Enrollment	Percent Passing
Mathematics	142	100.0	122	100.0
Science	136	100.0	125	99.2
Social studies	151	100.0	141	100.0
CAD	53	100.0	59	100.0

Project met objective.

Attendance

- The attendance rate of target students will be 10 to 15 percent greater than mainstream students.

The attendance rate of project students was 96.9 percent, while that of mainstream students was 71.6.

Project met objective.

Dropout Rate

- The percentage of dropouts for target students will be 10 to 15 percent less than mainstream dropouts.

Thirty-one project students dropped out, for a rate of 16.3 percent. The dropout rate for mainstream students was 7.5 percent.

Project did not meet objective.

Special Education Referrals and Grade Retention

Whenever a student showed sustained emotional dysfunction, he or she was sent for evaluation to the School-Based Support Team (S.B.S.T.), which included a bilingual social worker.

- As a result of participating in the program, student grade retention or referral to or placement in special education classes rate will be less than mainstream education students.

One student was referred to special education. No mainstream students were referred to special education.

Thirty-six project students (18.9 percent) were retained in the eleventh grade so that they would be able to complete the course requirements for graduation. Five hundred forty-two mainstream students (29.2 percent) were retained in grade.

Project met objective for grade retention, but not for referral to special education.

Gifted and Talented/Post-Secondary Institutions

- As a result of participating in the program, placement in programs for gifted and talented and enrollment in post-secondary education institutions will be greater than mainstream students'.

While 61 mainstream students (3.2 percent) were recommended for gifted and talented programs, no project students were recommended for them. The project's data on post-secondary enrollment were incomplete.

Project did not meet objective for placement in gifted and talented programs.

OREA could not evaluate objective with respect to enrollment in post-secondary education institutions.

Staff Development

- As a result of participating in the program, 90 percent of staff taking courses at universities will demonstrate professional growth by completing courses of study.

Two project staff members took courses in bilingual education, and both completed them successfully.

Project met objective.

Curriculum Development

- Courses of study will have been revised and reviewed to meet the needs of Hispanic and Haitian students in the following areas:

  a) Applied E.S.L.: Levels II and III.

  b) N.L.A. skills (particularly reading and writing).

  c) New York City Public Schools curriculum in the area of Computer-Aided Drafting/Design in Spanish and Haitian Creole.

Project staff and participating teachers reviewed and revised all proposed courses of study; translated social studies, mathematics, and science materials; and integrated these materials into classroom instruction.

Project met objective.

Parental Involvement

- Parents of target students will demonstrate more parental involvement than parents of mainstream students by demonstrating a 10 to 15 percent higher attendance at school functions.

Parent involvement activities were offered throughout the year. These included a multicultural banquet/dance, bimonthly parent meetings, and meetings in which parents learned about school policy and other education issues. Mean attendance was 13, while the mean attendance for parents of mainstream students was 9.

Project met objective.

Other Activities

Project Data-Tech offered participating students trips to museums and various cultural activities. Program students published a trilingual magazine featuring students' literary pieces and artwork.

The project provided academic and personal guidance, family assistance, an Executive Internship Program, job placement, special tutoring in the evening school, and pre-examination preparatory tutoring.

MAINSTREAMING

Three students (1.6 percent of participants) were mainstreamed.

Academic Achievement of Former Project Students in Mainstream

No data were available on former program participants.

CASE HISTORY

Ramón R. was born in El Salvador in 1974 and came to New York in April 1989. Ramón's native-language skills were excellent, but his limited English-language skills posed obstacles to his academic success. After enrolling at Sarah J. Hale High School in September 1989, he entered the computer-aided drafting component of Project Data-Tech. Ramón successfully transferred his learning skills to his studies across the curriculum. He succeeded in predominantly English-language classes and contributed to the project's literary magazine. Citing his part-time job as an intern with the Executive Internship Program as a pivotal experience in his academic and professional career, Ramón continued to maintain an average of 85 or above. He intended to attend college and major in pre-medical studies.

APPENDIX A

DATA COLLECTION AND ANALYSIS

Student Data Form

This one-page form is filled out by staff for each participating and mainstreamed student. OREA gathers data from this form on backgrounds, demographics, academic outcomes, attendance, referrals, and exit from the program.

Project Director's Questionnaire

The Project Director's Questionnaire includes questions on staff qualifications, program implementation, periods of instruction, and instructional materials and techniques.

Project Director's Interview

The interview gathers information on program and student or staff characteristics not supplied by the Project Director's Questionnaire. The interview also allows project staff to offer qualitative data or amplify responses to the Questionnaire.

Citywide Test Scores

OREA retrieves scores centrally from the Language Assessment Battery (LAB) and other citywide tests. For evaluation purposes, these test scores are reported in Normal Curve Equivalents (N.C.E.s). N.C.E.s are normalized standard scores with a mean of 50 and a standard deviation (s.d.) of 21.06. They constitute an equal-interval scale in which the distance is the same between any two adjacent scores. A gain of 5 N.C.E.s is the same whether it is at the lower or the higher end of the scale. N.C.E.s can be used in arithmetic computations to indicate group progress. (Percentile scales, although more familiar to many, are unsuitable for such computations since they are not equal-interval.)

Likert-Type Surveys

Likert-type surveys, in which respondents mark their opinions on a scale from one to five, are used in a variety of ways. They examine student attitudes (i.e., toward school and career, native language use, and native and mainstream cultures). They also assess staff and parent attitude and reactions to workshops and other activities.

Gap Reduction Evaluation Design

OREA uses a gap reduction design for measuring changes in standardized tests. Since no appropriate non-project comparison group is available in New York City, where all students of limited English proficiency (LEP) are entitled to receive supplementary services, OREA compares the progress of participating students with that of the group on which the test was normed. It is assumed that the norm group would show a zero gain in the absence of instruction, and gains made by project students could be attributed to project services. (See "Citywide Test Scores" above.)

To test whether pre/posttest gains are greater than could be expected by chance alone, OREA uses a *t*-test. To determine whether a difference between two proportions (e.g., program and mainstream attendance rates) is greater than could be expected by chance, OREA uses a *z*-test. The level of significance is set at .05 for all tests.